PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

28 January 2016 – Week 04 report (up to week 03 data)

This report is published weekly on the PHE website. For further information on the surveillance schemes mentioned in this report, please see the PHE website and the related links at the end of this document.

Summary

In week 03 2016 (ending 24 January 2016), influenza activity was at similar or higher levels across surveillance schemes, including GP ILI consultation rates, the proportion of laboratory samples positive for influenza and influenza admissions to hospitals and ICU. The Department of Health has issued an alert on the prescription of antiviral medicines to the health service. Updated guidance on antiviral prescribing in secondary care when influenza A(H1N1)pdm09 is the dominant circulating strain has been published.

- Community influenza surveillance
  - During week 03, there were further small increases in GP consultations for influenza-like illness and NHS 111 cold/flu calls.
  - Fifty-two new acute respiratory outbreaks have been reported in the past 7 days. Thirty-seven outbreaks were in schools. Ten outbreaks were from care homes where one tested positive for influenza A(H1N1)pdm09 and another one for influenza A(not subtyped). Five outbreaks were from hospitals where three tested positive for influenza A(H1N1)pdm09 and two were positive for influenza A(not subtyped).
- Overall weekly influenza GP consultation rates across the UK
  - In week 03, overall weekly influenza-like illness (ILI) GP consultation rate has increased and is above the baseline threshold in England (17.4 per 100,000). ILI rates have decreased in Wales (13.5 per 100,000), Scotland (12.7 per 100,000) and Northern Ireland (29.5 per 100,000).
  - Through the GP In Hours surveillance system, weekly ILI rates have increased but remain within seasonally expected levels in week 03.
- Influenza-confirmed hospitalisations
  - Eighty-five new admissions to ICU/HDU with confirmed influenza (thirty-six influenza A(H1N1)pdm09,two influenza A(H3N2) and forty-seven influenza A(unknown subtype)) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (131 NHS Trusts in England) in week 03, a rate of 0.19 per 100,000 compared to 0.13 per 100,000 in week 02. Two new confirmed influenza deaths were also reported through this scheme.
  - Seventy-five new hospitalised confirmed influenza cases (sixty-four influenza A(H1N1pdm09) and eleven influenza A(unknown subtype)) were reported through the USISS sentinel hospital network across England (24 NHS Trusts), a rate of 0.87 compared to 0.58 per 100,000 the previous week.
  - Since week 40, eighteen confirmed influenza admissions have been reported (thirteen influenza A(H1N1)pdm09 and five influenza A(unknown subtype) from the six Severe Respiratory Failure centres in the UK.
- All-cause mortality data
  - Up to week 03 2016 in England, excess mortality by date of death was seen in <5 year olds and 5-14 year olds in week 51 and in 15-64 year olds in week 50 & 52 with the EuroMoMo algorithm. In the devolved administrations, significant excess was seen in Northern Ireland in week 03. No excess was seen in Wales and Scotland.
- Microbiological surveillance
  - Fifty-four samples tested positive for influenza (37 A(H1N1)pdm09, 13 A(untyped) and 4 B) through GP sentinel schemes across the UK, with an overall positivity of 24.4%.
  - Two hundred and eighteen influenza positive detections were recorded through the DataMart scheme (one hundred and forty influenza A(H1N1)pdm09, five A(H3), sixty-four A(not subtyped) and nine influenza B). A positivity of 13.8% was seen in week 03, compared to 11.3% in week 02, with the highest positivity in 15-44 year olds (21.4%). This is above the all-age threshold for 2015/16 season of 7.4%.
- Vaccination
  - Up to week 03 2016 in 94.4% GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows: 44.9% in under 65 years in a clinical risk group, 42.2% in pregnant women, 70.8% in 65+ year olds, 35.3% in all 2 year olds, 37.4% in all 3 year olds and 29.8% in all 4 year olds.
  - Provisional data from the third monthly collection of influenza vaccine uptake by frontline healthcare workers show 47.6% were vaccinated by 31 December 2015 from 95.4% of Trusts, compared to 52.6% vaccinated in the previous season by 31 December 2014. The report is available here.
  - Provisional data from the third monthly collection of influenza vaccine uptake children of school years 1 and 2 age show the proportion of children in England who received the 2015/16 live attenuated intranasal vaccine (LAIV) from 1 September 2015 to 31 December 2015 was as follows: 50.6% in children school year 1 age (5-6 years) and 49.3% in children school year 2 age (6-7 years).
  - Provisional data from the third monthly collection of influenza vaccine uptake in GP patients up to 31 November 2015 has been published. The report provides uptake at national, area team and CCG level.
- International situation
  - Globally, influenza activity has increased in some temperate countries of the Northern hemisphere. High levels of influenza activity have been reported from some of the Western Asia countries.
  - Influenza activity in Europe continues to increase.

Community surveillance

| Back to top |

During week 03, there were further small increases in GP consultations for influenza-like illness and NHS 111 cold/flu calls. Fifty-two new acute respiratory outbreaks were reported in the past 7 days.

- PHE Real-time Syndromic Surveillance

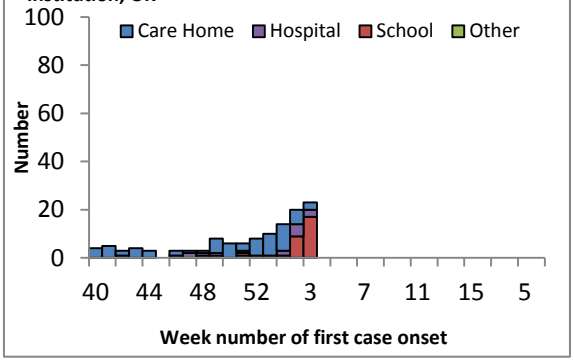
- In week 03, there were further small increases in GP consultation rates for influenza-like illness however rates remain within seasonally expected levels. Consultation rates of lower respiratory tract infection (LRTI) and pneumonia continued to decrease during week 03.

- Acute respiratory disease outbreaks

- Fifty-two new acute respiratory outbreaks have been reported in the past 7 days. Thirty-seven outbreaks were from schools where one tested negative for respiratory viruses and for the remaining results were not available/not tested. Ten outbreaks were from care homes, where one tested positive for influenza A(H1N1)pdm09, one positive for influenza A(not subtyped) and one positive for adenovirus. Five outbreaks were from hospitals where three tested positive for influenza A(H1N1)pdm09 and two positive for influenza A(not subtyped).

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and Respscidsc@phe.gov.uk.

Figure 1: Number of acute respiratory outbreaks by institution, UK



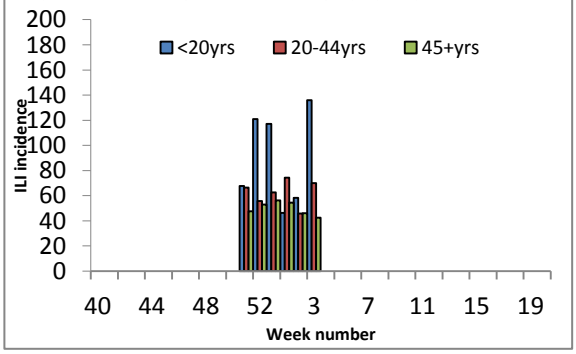
- FluSurvey

- Internet-based surveillance of influenza in the general population is undertaken through the FluSurvey. A project run jointly by PHE and the London School of Hygiene and Tropical Medicine.

- The overall ILI rate (all age groups) for week 03 was 54.4 per 1,000 (131/2,409 people reported at least 1 ILI), with the <20 age group reporting a higher rate of 135.9 per 1,000.

- If you would like to become a participant of the FluSurvey project please do so by visiting the http://flusurvey.org.uk website for more information.

Figure 2: FluSurvey ILI incidence by age group, UK



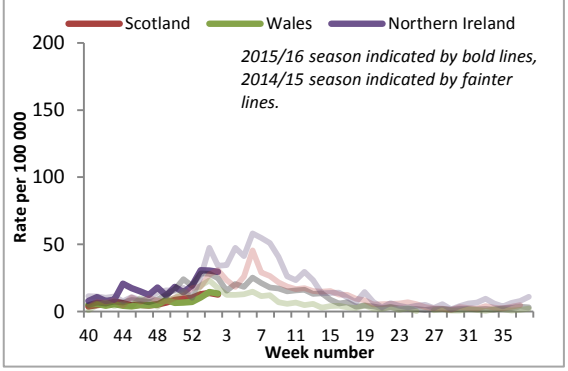
Weekly consultation rates in national sentinel schemes

| Back to top |

In week 03, overall weekly influenza-like illness GP consultations have increased or remained within seasonally expected levels, with an increase in England and decreases seen in Wales, Scotland and Northern Ireland.

- Influenza/Influenza-Like-Illness (ILI)

Figure 3: GP ILI/influenza consultation rates in the UK



NB: *As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 3 is an average of week 52 and week 53 data.*

Northern Ireland

-The Northern Ireland influenza consultation rate has decreased at 29.5 per 100,000 in week 03 compared to 30.5 per 100,000 in week 02 (Figure 3). This remains below the pre-epidemic threshold (49 per 100,000).

-The highest rates were seen in the 1-4 year olds (38.9 per 100,000), 45-64 year olds (36.7 per 100,000) and 15-44 year olds (34.1 per 100,000).

Wales

-The Welsh influenza rate has decreased to 13.5 per 100,000 in week 03 compared to 14.6 per 100,000 in week 02 (Figure 3).

-The highest rates were seen in 15-44 year olds (18.0 per 100,000), 5-14 year olds (16.8 per 100,000) and in 1-4 year olds (14.0 per 100,000).

Scotland

-The Scottish ILI rate has decreased slightly to 12.7 per 100,000 in week 03 (Figure 3) compared to 13.9 per 100,000 in week 02. This remains below the pre-epidemic threshold (37 per 100,000).

-The highest rates were seen in 45-64 year olds (17.0 per 100,000) and 15-44 year olds (15.0 per 100,000).

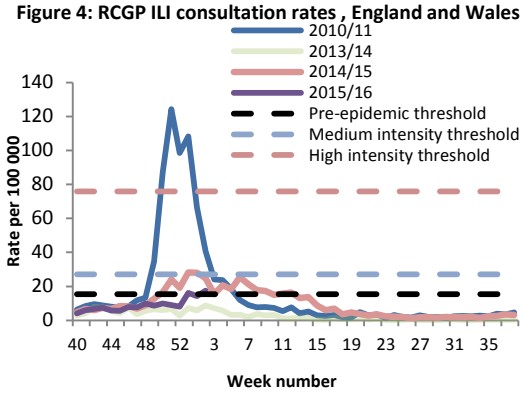
RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance system has increased to 17.4 per 100,000 in week 03 compared to 14.2 per 100,000 in week 02. This is above the pre-epidemic threshold (15.4 per 100,000) (Figure 4*). By age group, the highest rates were seen in 45-64 year olds (22.3 per 100,000), 15-44 year olds (20.1 per 100,000) and 1-4 year olds (18.6 per 100,000).

**The Moving Epidemic Method has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity in a standardised approach across Europe.*

***NB:** As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 4 is an average of week 52 and week 53 data.*

Figure 4: RCGP ILI consultation rates , England and Wales



GP In Hours Syndromic Surveillance System (England)

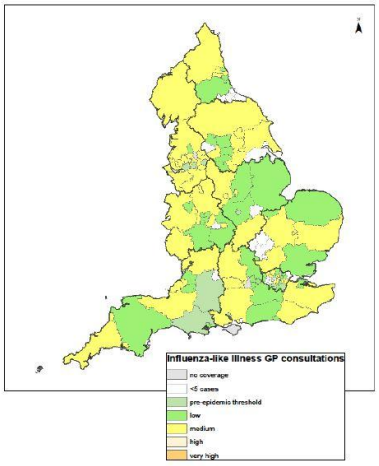
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system was low at 10.9 per 100,000 in week 02 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 03 across England by Local Authorities, using influenza-like illness surveillance thresholds.

Thresholds are calculated using a standard methodology for setting ILI thresholds across Europe (the "Moving Epidemic Method" (MEM)) and are based on six previous influenza seasons (excluding the 2009/10 H1N1 pandemic)

-For further information, please see the syndromic surveillance webpage.

Figure 5: Map of GP ILI consultation rates in Week 03



Influenza confirmed hospitalisations

| Back to top |

In week 03, eighty-five new admissions to ICU/HDU with confirmed influenza (36 influenza A(H1N1)pdm09, 2 influenza A(H3N2) and 47 influenza A(unknown subtype)) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (131 Trusts in England). Seventy-five new hospitalised confirmed influenza cases (64 influenza A(H1N1)pdm09 and 11 influenza A(unknown subtype)) were reported through the USISS sentinel hospital network across England (24 Trusts).

A national mandatory collection (USISS mandatory ICU scheme) is operating in cooperation with the Department of Health to report the number of confirmed influenza cases admitted to Intensive Care Units (ICU) and High Dependency Units (HDU) and number of confirmed influenza deaths in ICU/HDU across the UK. A confirmed case is defined as an individual with a laboratory confirmed influenza infection admitted to ICU/HDU. In addition a sentinel network (USISS sentinel hospital network) of acute NHS trusts is established in England to report weekly laboratory confirmed hospital admissions. Further information on these systems is available through the website. Please note data in previously reported weeks are updated and so may vary by week of reporting.

- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 03)

- In week 03, eighty-five new admissions to ICU/HDU with confirmed influenza (36 influenza A(H1N1)pdm09, 2 influenza A(H3N2) and 47 A(unknown subtype)) were reported across the UK (131/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 6 and 7), a rate of 0.19 per 100,000 compared to a rate of 0.13 per 100,000 in the previous week. Two new confirmed influenza deaths were also reported in week 03 2016. A total of 469 admissions (218 influenza A(H1N1)pdm09, 15 influenza A(H3N2), 219 influenza A (unknown subtype) and 17 influenza B) and 36 confirmed influenza deaths have been reported since week 40 2015.

Figure 6: Weekly ICU/HDU influenza admission rate per 100,000 trust catchment population , England, since week 40 2015

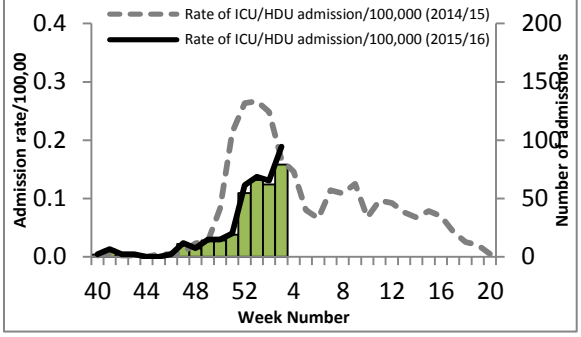
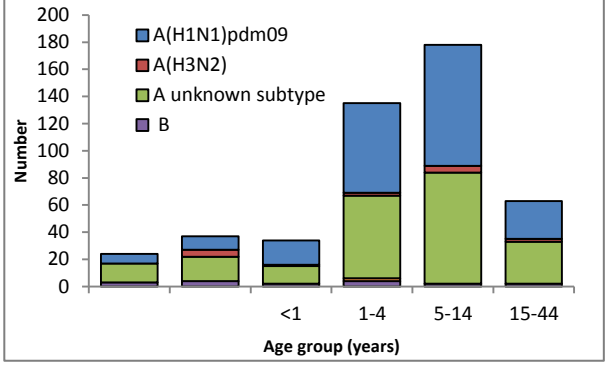


Figure 7: Cumulative ICU influenza admissions (USISS mandatory) by age group and flu type, UK, since week 40 2015



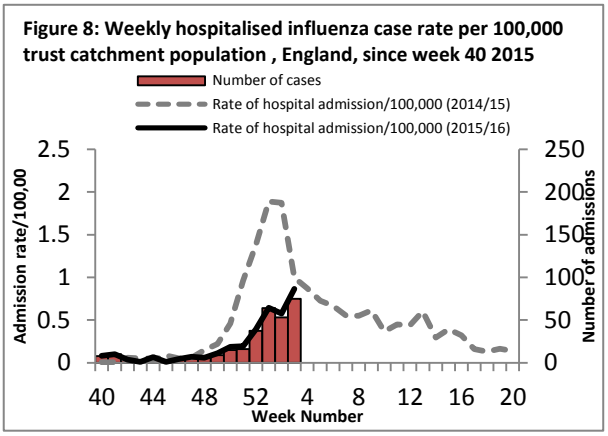
NB: *As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 6 is an average of week 52 and week 53 data.*

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 03)

- In week 03, seventy-five new hospitalised confirmed influenza cases (64 influenza A(H1N1pdm09) and 11 influenza A(unknown subtype)) were reported through the USISS sentinel hospital network from 24 NHS Trusts across England (Figure 8), a rate of 0.87 per 100,000 compared to 0.58 per 100,000 the previous week. A total of 355 hospitalised confirmed influenza admissions (264 influenza A(H1N1pdm09), 11 influenza A(H3N2), 60 influenza A (unknown subtype) and 20 influenza B) have been reported since week 40.

NB: *As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 8 is an average of week 52 and week 53 data.*

Figure 8: Weekly hospitalised influenza case rate per 100,000 trust catchment population , England, since week 40 2015



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 03)

- In week 03, one new confirmed influenza admission to the five Severe Respiratory Failure Centres in England was reported (influenza A(unknown subtype)). Since week 40, eighteen confirmed influenza admissions have been reported (13 influenza A(H1N1)pdm09 and 5 influenza A(unknown subtype)) from the six Severe Respiratory Failure centres in the UK.

All-cause mortality data

| Back to top |

Up to week 03 2016 in England, excess mortality by date of death was seen in <5 year olds and 5-14 year olds in week 51 and in 15-64 year olds in week 50 & 52 with the EuroMoMo algorithm. In the devolved administrations, significant excess was seen in Northern Ireland in week 03. No excess was seen in Wales and Scotland.

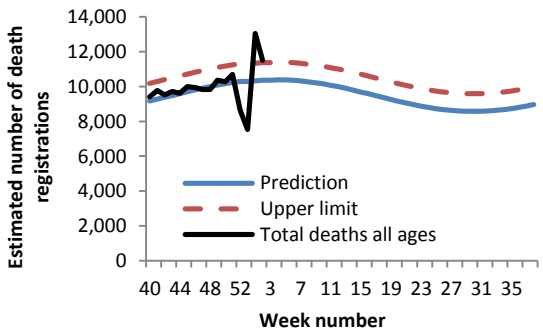
Seasonal mortality is seen each year in the UK, with a higher number of deaths in winter months compared to the summer. Additionally, peaks of mortality above this expected higher level typically occur in winter, most commonly the result of factors such as cold snaps and increased circulation of respiratory viruses, in

particular influenza. Weekly mortality surveillance presented here aims to detect and report acute significant weekly excess mortality above normal seasonal levels in a timely fashion. Excess mortality is defined as a significant number of deaths reported over that expected for a given point in the year, allowing for weekly variation in the number of deaths. The aim is not to assess general mortality trends or precisely estimate the excess attributable to different factors, although some end-of-winter estimates and more in-depth analyses (by age, geography etc.) are undertaken.

- Excess overall all-cause mortality, England and Wales

-In week 02 2016, an estimated 11,501 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is a decrease compared to the 13,045 estimated death registrations in week 01 2016, and is above the 95% upper limit of expected death registrations for the time of year as calculated by PHE (Figure 9). The sharp drop in the number of deaths in week 53 corresponds to a week where there were bank holidays and fewer days when deaths were registered. Therefore this drop is likely to be artificial.

Figure 9: Observed & predicted all-cause death registrations, E&W



- Excess all-cause mortality by age group, England, Wales, Scotland and Northern Ireland

-Up to week 03 2016 in England, excess mortality by date of death above the upper 2 z-score threshold was seen in <5 years olds and 5-14 year olds in week 51 and in 15-64 year olds in weeks 50 & 52 after correcting ONS disaggregate data for reporting delay with the standardised EuroMoMo algorithm (Figure 2, Table 1). No significant excess was seen in other age groups. This data is provisional due to the time delay in registration; numbers may vary from week to week.

Table 1: Excess mortality by age group,England*

Age group (years)	Excess detected in week 03 2016?	Weeks with excess in 2015/16
<5	×	51
5-14	×	51
15-64	×	50,52
65+	×	NA

** Excess mortality is calculated as the observed minus the expected number of deaths in weeks above threshold*

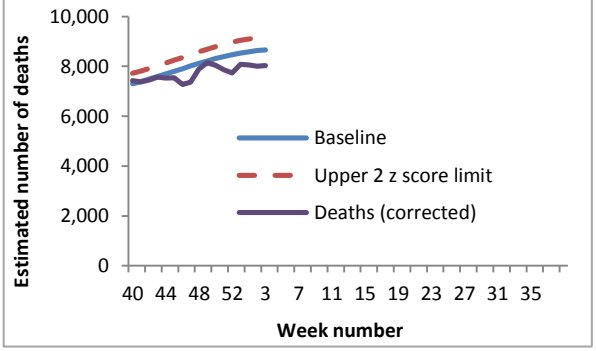
- In week 03 2016 in the devolved administrations, excess mortality above the threshold was seen in Northern Ireland. No significant excess mortality was seen in Wales and Scotland (Table 2).

Table 2: Excess mortality by UK country*

Country	Excess detected in week 03 2016?	Weeks with excess in 2015/16
England	×	NA
Wales	×	NA
Scotland	×	48
Northern Ireland	×	49,52-03

** Excess mortality is calculated as the observed minus the expected number of deaths in weeks above threshold*
NB. Separate total and age-specific models are run for England which may lead to discrepancies between Tables 1 + 2

Figure 10: Excess mortality in 65+ year olds by week of death, EuroMOMO, England



Microbiological surveillance

| Back to top |

In week 03 2016, fifty-four samples tested for influenza through the UK GP sentinel schemes were positive. Two hundred and eighteen influenza positive detections were recorded through the DataMart scheme (one hundred and forty influenza A(H1N1)pdm09, five A(H3), sixty-four A(not subtyped) and nine influenza B).

- Sentinel swabbing schemes in England (RCGP) and the Devolved Administrations

-In week 03, thirty samples were positive for influenza in England (28 influenza A(H1N1)pdm09 and 2 influenza B), thirteen samples were positive in Scotland (3 influenza A(H1N1)pdm09, 9 influenza A (untyped) and 1 influenza B), four samples were positive in Wales (4 influenza A(H1N1)) and seven samples were positive in Northern Ireland (2 influenza A(H1N1)pdm09, 4 influenza A(untyped) and 1 influenza B) (Table 3).

Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
52	16/89 (18%)	7/67 (10.4%)	4/6 (-)	1/4 (-)
53	14/61 (23%)	5/54 (9.3%)	2/8 (-)	1/7 (-)
01	18/122 (14.8%)	9/83 (10.8%)	2/7 (-)	2/4 (-)
02	23/127 (18.1%)	17/97 (17.5%)	4/10 (40%)	4/9 (-)
03	30/137 (21.9%)	13/67 (19.4%)	7/9 (-)	4/8 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 03 2016, out of the 1,567 respiratory specimens reported through the Respiratory DataMart System, 218 samples (13.8%) were positive for influenza (140 A(H1N1)pdm09, 5 A(H3), 64 A(not subtyped) and 9 B) (Figure 11). The highest positivity was in the 15-44 year olds at 21.4%. The overall positivity for RSV continued to decrease, with the highest positivity in children aged under 5 years at 14.2% in week 03 (Figure 12). Positivity for parainfluenza remained low at 1.8% in week 03. Positivity for rhinovirus increased slightly to 11.5% and positivity for hMPV remained low at 3.6%. Adenovirus positivity increased to 4.2% (Figure 13).

Figure 11: DataMart samples positive for influenza, England

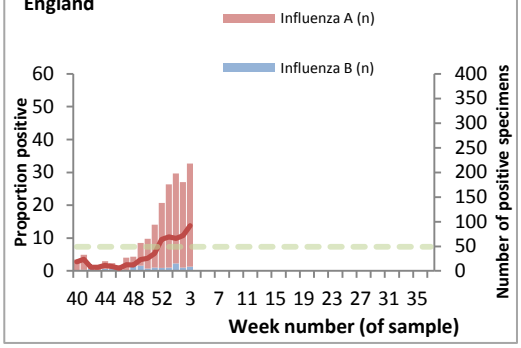


Figure 12: Datamart % RSV positive by age, England

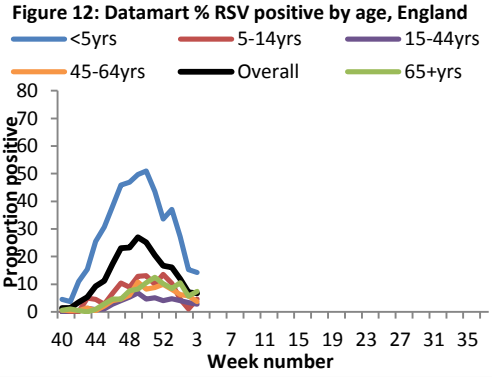
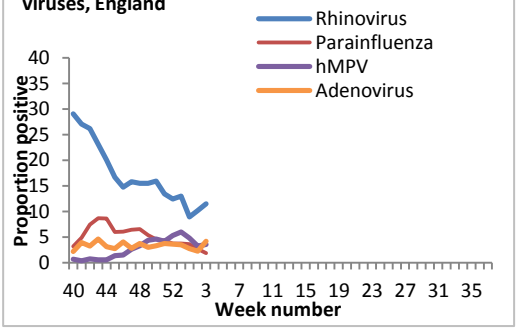


Figure 13: Datamart % positive for other respiratory viruses, England



**The Moving Epidemic Method has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity in a standardised approach across Europe. The threshold to indicate a likelihood of influenza community circulation for Datamart % positive as calculated through the Moving Epidemic Method is 7.4% in 2015/16.*

- Virus characterisation

Since the start of the 2015/16 winter influenza season in week 40 2015, the PHE Respiratory Virus Unit has characterised a total of 138 A(H1N1)pdm09 influenza viruses; 85 genetically and 35 both antigenically and genetically. The A(H1N1)pdm09 viruses genetically characterised to date all belong in the genetic subgroup 6B, which was the predominant genetic subgroup in the 2014/15 season. Some heterogeneity has been seen in the A(H1N1)pdm09 viruses genetically characterised to date this season, with some genetic subgroups starting to become evident. Of 88 viruses analysed by HI assays, greater than 80% were antigenically similar to the A/California/7/2009 Northern Hemisphere 2015/16 (H1N1)pdm09 vaccine strain. This data suggests that some antigenic drift variants appear to be circulating, but the majority of viruses antigenically characterised to date are similar to the (H1N1)pdm09 vaccine strain.

Genetic characterisation of eight A(H3N2) influenza viruses since week 38 showed that they belong to genetic group 3C.2a, and are genetically similar to the majority of A(H3N2) viruses circulating in the 2014/15 season. Four A(H3N2) influenza viruses have been isolated and antigenically characterised since week 38 2015. These four viruses were antigenically similar to the A/Switzerland/9715293/2013 H3N2 Northern Hemisphere 2015/16 vaccine strain.

Three influenza B viruses have been isolated and antigenically characterised since week 40 2015. One virus was characterised as belonging to the B/Yamagata/16/88-lineage and was antigenically similar to B/Phuket/3073/2013, the influenza B/Yamagata-lineage component of 2015/16 Northern Hemisphere trivalent vaccines. Two viruses were characterised as belonging to the B/Victoria/2/87 lineage and were antigenically similar to B/Brisbane/60/2008, the influenza B/Victoria-lineage component of 2015/16 Northern Hemisphere quadrivalent vaccines.

- Antiviral susceptibility

Since week 40 2014, 331 influenza A(H1N1)pdm09, one influenza A(H3N2) and three influenza B have been tested for oseltamivir susceptibility with three influenza A(H1N1)pdm09 virus and one influenza A(H3N2) found to be resistant in the UK. One of the A(H1N1)pdm09 resistant samples was obtained from a patient with underlying medical conditions undergoing oseltamivir treatment. The A(H3N2) resistant sample was from an immunocompromised patient receiving oseltamivir treatment, with an E119V amino acid change. 58 influenza A(H1N1)pdm09 and three influenza B have also been tested for zanamivir susceptibility in the UK and were all found to be sensitive.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 24 January 2016, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenza, Staphylococcus aureus,* MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired pneumonia (CAP) and the choice of antibiotics reflects the British Thoracic Society empirical guidelines for management of CAP in adults.

Table 4: Antimicrobial susceptibility surveillance in lower respiratory tract isolates, 12 weeks up to 24 January 2016, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
S. pneumoniae	Penicillin	2,487	91
	Macrolides	2,844	83
	Tetracycline	2,751	84
H. influenzae	Amoxicillin/ampicillin	11,065	70
	Co-amoxiclav	10,604	92
	Macrolides	3,719	19
	Tetracycline	10,897	98
S. aureus	Methicillin	3,677	87
	Macrolides	3,617	72
MRSA	Clindamycin	395	47
	Tetracycline	443	90
MSSA	Clindamycin	2,040	78
	Tetracycline	2,967	93

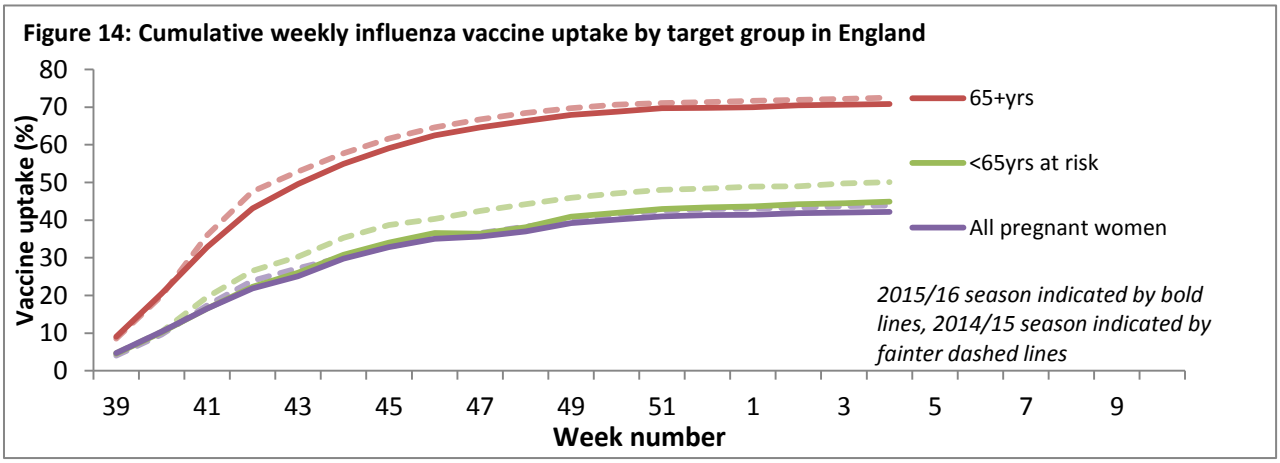
**Macrolides = erythromycin, azithromycin and clarithromycin*

Vaccination

| Back to top |

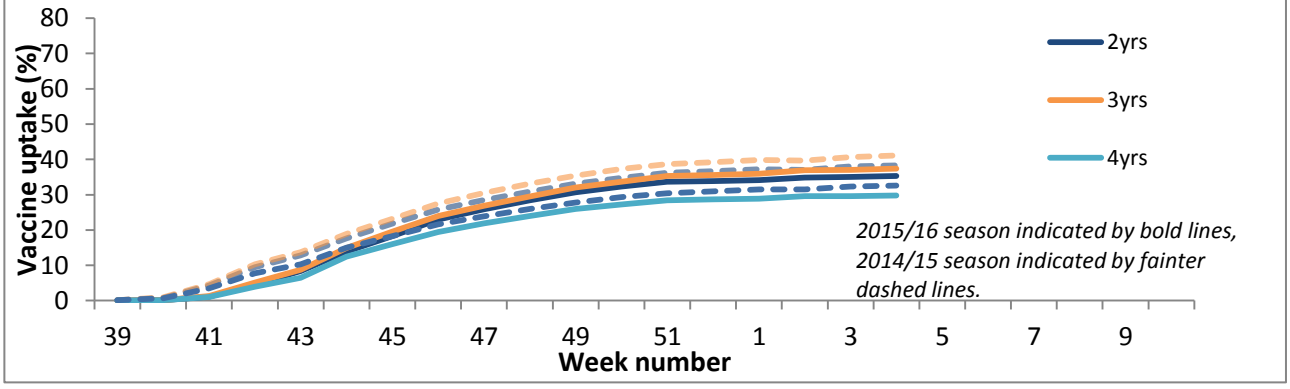
- Up to week 03 2016 in 94.4% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows (Figure 14):
  - 44.9% in under 65 years in a clinical risk group
  - 42.2% in pregnant women
  - 70.8% in 65+ year olds

Figure 14: Cumulative weekly influenza vaccine uptake by target group in England



- In 2015/16, all two-, three- and four-year-olds continue to be eligible for flu vaccination. In addition, the programme has been extended to children of school years 1 and 2 age. Up to week 02 2016 in 94.4% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows (Figure 15)
  - 35.3% in all 2 year olds
  - 37.4% in all 3 year olds
  - 29.8% in all 4 year olds

Figure 15: Cumulative weekly influenza vaccine uptake by target group in England



- Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 47.6% were vaccinated by 31 December 2015 from 95.4% of Trusts, compared to 52.6% vaccinated in the previous season by 31 December 2014. The report provides uptake at national, area team and CCG level.
- Provisional data from the second monthly collection of influenza vaccine uptake children of school years 1 and 2 age show the proportion of children in England who received the 2015/16 live attenuated intranasal vaccine (LAIV) from 1 September 2015 to 31 December 2015 was as follows: 50.6% in children school year 1 age (5-6 years) and 49.3% in children school year 2 age (6-7 years).
- Provisional data from the second monthly collection of influenza vaccine uptake in GP patients up to 31 December 2015 has been published. The report provides uptake at national, area team and CCG level.

International Situation

| Back to top |

Globally, influenza activity has increased in some temperate countries of the Northern hemisphere. High levels of influenza activity have been reported from some of the Western Asia countries.

- Europe updated on 22 January 2016 (Joint ECDC-WHO Influenza weekly update)

In week 02/2016, 32 countries reported influenza viruses in specimens from sentinel influenza-like illness (ILI) and acute respiratory infection (ARI) surveillance this week, suggesting that influenza activity is increasing in the WHO European Region.

In week 02/2016, 83% of the influenza-virus-positive specimens from sentinel sources and 94% of those from non-sentinel sources contained influenza A viruses, with a predominance (74% and 87%, respectively) of A(H1N1)pdm09 viruses among those subtyped, accounting for 38% and 42%, respectively, of all A(H1N1)pdm09detections in single week since the beginning of the season. Overall, 6% of specimens from non-sentinel sources have tested positive for influenza virus since week 40/2015, with a proportion of 20% for week 01/2015.

- United States of America Updated on 22 January 2016 (Centre for Disease Control report)

During week 02 2016, influenza activity increased slightly in the United States. The most frequently identified type reported to be influenza A with influenza A (H1N1)pdm09 viruses predominating.

Nationwide during week 02, the proportion of outpatient visits for influenza-like illness (ILI) was 2.1%, which is at the national baseline of 2.1%. Six of 10 regions reported ILI at or above region-specific baseline levels.

The percent positive for laboratory confirmed influenza detections was low.

During week 02, 7.6% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was above the epidemic threshold of 7.1% for week 02. A total of seven influenza associated paediatric deaths have been reported during the 2015-2016 season.

- Canada Updated on 22 January 2016 (Public Health Agency report)

In week 02, seasonal influenza activity was similar to week 01 in Canada. The percent positive for laboratory confirmed influenza detections increased from 6.0% in week 01 to 7.2% in week 01. Among subtyped influenza detections, influenza A(H1N1)) was the most common influenza A virus detected across Canada. To date, 82% of influenza detections have been influenza A and the majority of those subtyped have been A(H1N1) (55%).

The national influenza-like-illness (ILI) consultation rate has decreased from 28.4.5 per 1,000 visits in week 01 to 12.5 per 1,000 visits in week 02. In week 02, the highest ILI consultation rate was found in the 5-19 years of age and the lowest was found in the >65 years of age group.

To date this season, 70 laboratory-confirmed influenza-associated paediatric (≤16 years of age) hospitalizations have been reported by the Immunization Monitoring Program Active (IMPACT) network. Since the start of the 2015-16 season, 274 laboratory-confirmed influenza-associated hospitalizations have been reported. Two hundred and forty hospitalizations (88%) were due to influenza A and 34 (12%) were due to influenza B. Among cases for which the subtype of influenza A was reported, 65% (101/156) were influenza A(H1N1). The majority (40%) of hospitalized cases were ≥65 years of age. Twenty-eight ICU admissions and 12 deaths have been reported.

- Global influenza update Updated on 11 January 2015 (WHO website)

High levels of influenza activity was reported from some countries in Western Asia. Globally influenza activity was picking up in some temperate countries of the Northern Hemisphere, but in general remained low.

In Eastern Asia, influenza activity continued at low levels, except Mongolia where increased influenza activity was reported.

In Central Asia, influenza activity increased in a few countries, but in general remained low.

In Western Asia, influenza activity remained at high levels. Israel, Jordan and Oman reported increased influenza activity associated with influenza A(H1N1)pdm09 and influenza B viruses, and the Islamic Republic of Iran and Pakistan reported elevated influenza activity, predominantly due to influenza A(H1N1)pdm09. Bahrain and Qatar reported a decline in influenza activity.

In Europe influenza activity continued at low levels, except in some countries in Northern and Eastern Europe where an increase in influenza activity was observed.

In Northern Africa, influenza activity increased in a few countries, but in general remained low.

In tropical Africa, few influenza virus detections were reported.

In tropics of the Americas, respiratory virus activity was at low levels.

In tropical Asia, countries in Southern and South East Asia reported low influenza activity overall with the exception of Lao People's Democratic Republic and Thailand where influenza B viruses continue to be detected.

In the temperate countries of the Southern Hemisphere, respiratory virus activity was generally low in recent weeks.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 35,732 specimens between 14 December 2015 and 27 December 2015. 4,383 were positive for influenza viruses, of which 3,900 (89.0%) were typed as influenza A and 483 (11.0%) as influenza B. Of the sub-typed influenza A viruses, 2,919 (93.3%) were influenza A(H1N1)pdm09 and 210 (6.7%) were influenza A(H3N2). Of the characterized B viruses, 46 (52.9%) belonged to the B-Yamagata lineage and 41 (47.1%) to the B-Victoria lineage.

- Avian Influenza latest update on 20 January 2016 (WHO website)

Influenza A(H5N6)
On 8 January 2016, the National Health and Family Planning Commission (NHFPC) of China notified WHO of 2 additional laboratory-confirmed cases of human infection with avian influenza (H5N6) virus. A total of eight A(H5N6) have been reported so far around the world, with the first human infection reported in May 2014 in China's southwest province of Sichuan.

Since 2013 through to 20 January 2016, ten cases of avian influenza A(H5N6) have been detected of which nine were notified to WHO and one was reported in the scientific literature.1 All nine cases notified to WHO had clinically severe disease. The case reported in the literature, a five-year-old female, was a mild case detected through routine surveillance activities.

Influenza A(H7N9)
On 11 January 2016, the National Health and Family Planning Commission (NHFPC) of China notified WHO of 10 additional laboratory-confirmed cases of human infection with avian influenza A (H7N9) virus, including 3 deaths. For further updates and WHO travel and clinical management advice, please see the WHO website.
Since the last WHO Influenza update on 18 December 2015, ten new laboratory-confirmed human cases of avian influenza A(H7N9) virus infection were reported to WHO. Cases were reported from Guangdong, Jiangsu, Jiangxi and Zhejiang provinces of China with onsets between 24 November 2015 and 24 December 2015. All cases were exposed to live or slaughtered poultry. A total of 693 laboratory-confirmed cases of human infection with avian influenza A(H7N9) viruses, including at least 277 deaths have been reported to WHO.

Influenza A(H5N1)
From 2003 through 20 January 2016, 846 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection have been officially reported to WHO from 16 countries. Of these cases, 449 have died.
Various influenza A(H5) subtypes, such as influenza A(H5N1), A(H5N2), A(H5N3), A(H5N6), A(H5N8) and A(H5N9), continue to be detected in birds in West Africa, Europe and Asia, according to recent reports received by OIE. Since last month's report on detections of avian influenza A(H5) viruses in birds in France, no human infections have been identified. Although the influenza A(H5) viruses might have the potential to

cause disease in humans, so far no human cases of infection have been reported, with exception of the human infections with influenza A(H5N1) and A(H5N6) viruses in China. Overall, the public health risk assessment for avian influenza A(H5) viruses remains unchanged since the assessment of 17 July 2015.

- Middle East respiratory syndrome coronavirus (MERS-CoV) latest update on 07 January 2016

On 3 January 2016, the National IHR Focal Point of Oman notified WHO of 1 additional case of Middle East Respiratory Syndrome-Coronavirus (MERS-CoV) infection.

Between 29 November and 17 December 2015, the National IHR Focal Point for the Kingdom of Saudi Arabia notified WHO of 4 additional cases of MERS-CoV infection, including two deaths.

On 23 December 2015, the Ministry of Health and Welfare in Korea declared that transmission of MERS-CoV in South Korea was over by WHO standards.

Up to 27 January 2016, a total of four cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (two imported and two linked cases) have been confirmed in the UK. On-going surveillance has identified 552 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,626 laboratory-confirmed cases of infection with MERS-CoV, including at least 586 related deaths. Further information on management and guidance of possible cases is available online. The latest ECDC MERS-CoV risk assessment can be found here, where it is highlighted that risk of widespread transmission of MERS-CoV remains low.

Acknowledgements

| Back to top |

This report was prepared by the Influenza section, Respiratory Diseases Department, Centre for Infectious Disease Surveillance and Control, Public Health England. We are grateful to all who provided data for this report including the RCGP Research and Surveillance Centre, the PHE Real-time Syndromic Surveillance team, the PHE Respiratory Virus Unit, the PHE Modelling and Statistics unit, the PHE Dept. of Healthcare Associated Infection & Antimicrobial Resistance, PHE regional microbiology laboratories, NHS Direct, Office for National Statistics, the Department of Health, Health Protection Scotland, National Public Health Service (Wales), the Public Health Agency Northern Ireland, the Northern Ireland Statistics and Research Agency, QSurveillance® and EMIS and EMIS practices contributing to the QSurveillance® database.

Related links

| Back to top |

Weekly consultation rates in national sentinel schemes

- Sentinel schemes operating across the UK
- RCGP scheme
- Northern Ireland surveillance (Public Health Agency)
- Scotland surveillance (Health Protection Scotland)
- Wales surveillance (Public Health Wales)
- Real time syndromic surveillance
- MEM threshold methodology paper and UK pilot paper

Community surveillance

- Outbreak reporting
- FluSurvey
- MOSA

Disease severity and mortality data

- USISS system
- EuroMOMO mortality project

Vaccination

- Seasonal influenza vaccine programme (Department of Health Book)
- Childhood flu programme information for healthcare practitioners (Public Health England)
- 2015/16 Northern Hemisphere seasonal influenza vaccine recommendations (WHO)